

Notice of Allowability	Application No.	Applicant(s)	
	09/998,959	ATAL, BISHNU SAROOP	
	Examiner	Art Unit	
	Brian L. Albertalli	2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11 July 2005.
2. ☒ The allowed claim(s) is/are 1-24, 26-29 and 32-36.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

By

DETAILED ACTION

Allowable Subject Matter

Claims 1-24, 26-29, and 32-36 are allowed.

The following is an examiner's statement of reasons for allowance:

Claim 16 is the broadest representative claim in the instant application with allowable subject matter, thus claim 16 will be discussed first. Claim 16 includes the limitation "converting each stored phoneme into n-dimensional space having a center" and "comparing a distance from the center of the n-dimensional space to each of the phonemes of the converted plurality of phonemes". The term "center" as used in the context of this application refers to an actual center (as opposed to a "mean vector", or "center of gravity" of a general n-dimensional shape) of an n-dimensional space. This is emphasized in the specification in, for example, page 10 paragraph 37 where "center" is the "center of the hypersphere", and further emphasized by page 16, paragraph 55, where the prior art elliptical distributions of Fig. 1 are described as "off-center", while the conversion into n-dimensional space of the present invention produces a "distribution of data points centered in the graph and evenly distributed in a generally spherical form". The prior art of record does not disclose and would not render obvious (see Applicant's response), comparing a first distance from the center of an n-dimensional space having a center (i.e. a generally spherical form) to the sampled phoneme with the plurality of distances to each of the previously converted plurality of phonemes.

Claims 26, 32, and 35 have each been amended to include the limitation comparing a first distance from a center of an n-dimensional space to a first point

associated with a received phoneme with a second distance from the center of the n-dimensional space to a plurality of second points associated with each of the stored phonemes, and thus are allowed for the same reasons.

Claims 1 and 36 additionally include the limitation "determining a first distance with the orthogonal form of the expanded received-signal vector and a second distance associated respectively with each orthogonal form of the expanded stored-phoneme vectors" and "recognizing a phoneme according to a comparison of the first distance with the second distance" which is not disclosed and would not be rendered obvious (see Applicant's response) by the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian L. Albertalli whose telephone number is (571) 272-7616. The examiner can normally be reached on Mon - Fri, 8:00 AM - 5:30 PM, every second Fri off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on (571) 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BLA 9/20/05



W. R. YOUNG
PRIMARY EXAMINER